# *8784A5 & 8786A5 CERAMIC SHEAR ACCELEROMETERS*

The 8784A5 (top connector) and 8786A5 (side connector) are low impedance, voltage mode accelerometers designed for vibration measurements in single to multichannel applications. The unique connector design is rugged and maintains excellent integrity with repeated connections. The ceramic sensing element components have been carefully designed to provide the level of performance most often required in general purpose vibration measurements. Kistler's shear technology assures high immunity to base strain, thermal transients and transverse accelerations. Other outstanding features include high frequency response, light weight and hermetic sealing.

Continued

- Ceramic Shear sensing element
- Low impedance, voltage mode
- High sensitivity; resolution less than 1 millig
- Low transverse sensitivity
- Rugged connector for repeated connections
- Priced for OEM
- Conforming to CE

8784A5

8786A5

| Techincal Data | Unit | 8784/8786A5 |
|---|---|---|
| **Acceleration Range** | *g* | ±5 |
| **Acceleration Limit** | *g* | ±500 |
| **Transverse Limit** | $g_{pk}$ | ±500 |
| **Threshold** nom. | $g_{rms}$ | 0.0004 |
| **Sensitivity** ±10% | mV/*g* | 1000 |
| **Resonant Frequency** mounted, nom. | kHz | 27 |
| **Frequency Response**, ±5 % | Hz | 1 … 6000 |
| **Amplitude Non-linearity** | % FSO | ±1 |
| **Time Constant** | s | 0.5 |
| **Transverse Sensitivity** nom. (5% max.) | % | 1.5 |
| **Base Strain Sensitivity** @ 250 με | *g*/με | 0.005 |
| **Shock Limit** (1 ms puls width) max. | $g_{pk}$ | 2500 |
| **Temperature Coefficient of Sensitivity** | %/°F | −0.027 |
| | %/°C | −0.05 |
| **Operating Temperature** | °F | −65 ... 175 |
| | °C | −54 … 80 |
| **Output Bias**: | VDC | 11 |
| **Impedance** | Ω | ≤ 500 |
| **Voltage** F.S nom. | VDC | ±5 |
| **Source Voltage** | VDC | 18 … 30 |
| **Constant Current** | mA | 2 ... 20 |
| **Construction** | | |
| **Sensing Element** | type | ceramic shear |
| **Housing/Base** | material | Titanium |
| **Sealing**-Housing/Connector | type | Hermetic |
| **Connector** | type | 10-32 neg. |
| **Weight** | g | 21 |
| **Mounting Tourque** | lbf-in (Nm) | 18 (2) |

1 g = 9.80665 m/s², 1 inch = 25.4 mm, 1 gram = 0.03527 oz; 1 lbf-in = 0.1129

000-257e-10.02 (DBK8.8784/86e)



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A low impedance, voltage output is provided by the internal Kistler electronic impedance convertor. This output allows for the use of inexpensive coaxial cable, while providing high noise immunity and insensitivity to cable motion. Power this accelerometer with one of Kistler's couplers, signal conditioners or from ICP compatible power sources found in many measurement electronic units.

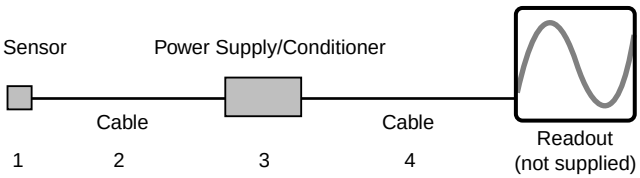
## Applications

Types 8784A5 and 8786A5 are multipurpose accelerometers, useful for many applications. These accelerometers provide less than one milli g resolution suitable for use in low level measurement applications. The wide bandwidth and rugged construction is ideal for impact and vibration related applications including condition monitoring and vehicle testing. These sensors offer excellent performance and cost advantages for demanding OEM applications. Contact Kistler for OEM and quantity discounts.

## Related Products

| | |
|---|---|
| 8202A10 | high impedance, charge mode, high temp., 10pC/g |
| 8203A50 | high impedance, charge mode, high temp., 50pC/g |
| 8284A30 | high impedance, charge mode, 33pC/g |
| 8286A30 | high impedance, charge mode, 33pC/g |
| 8290A25 | high impedance, charge mode, triaxial,25pC/g |
| 8774A50 | low impedance, voltage mode, 50g, 100mV/g |
| 8776A50 | low impedance, voltage mode, 50g, 100mV/g |

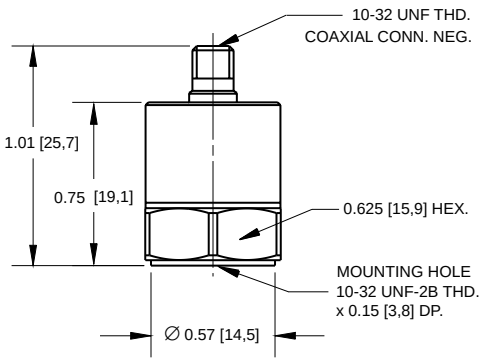
## Ordering Information




Specify:

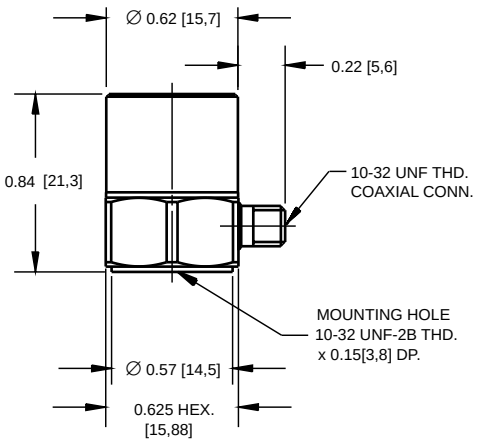
| | |
|---|---|
| 1 - 8784A5 | top connector accelerometer |
| 8786A5 | side connector accelerometer |
| 2 - 1761B... | economy sensor cable, specify length in meters |
| 3 - 5100 | series coupler or dual mode amplifier |
| 4 - 1511... | output cable, BNC pos. to BNC pos., specify length in meters |

Dimensions in inches [mm]




8784A5, top connector

Dimensions in inches [mm]




8786A5, side connector

## Supplied Accessory

8402 Mounting stud (10-32 thd.)

## Optional Accessories

| | |
|---|---|
| 8410 | mounting stud (10-32 to 1/4-28 thd.) |
| 8411 | mounting stud (10-32 to M6 thd.) |
| 8436 | adhesive mounting pad |
| 8452A | mounting magnet |

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